

E-308/C-92-1146 ORDER REQUIRING FURTHER TESTING

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Don Storm
Tom Burton
Marshall Johnson
Cynthia A. Kitlinski
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Chair
Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of a Formal Complaint by Don
and Jeanine Wolbeck Regarding Stray Voltage
Against Sauk Centre Water, Light, and Power
Commission

ISSUE DATE: January 25, 1995

DOCKET NO. E-308/C-92-1146

ORDER REQUIRING FURTHER TESTING

PROCEDURAL HISTORY

On September 28, 1992, Donald and Jeanine Wolbeck (Complainants) filed a formal complaint with the Commission against Sauk Centre Water, Light & Power Commission (Sauk Centre or Respondent). The Complainants alleged that Sauk Centre had failed to provide safe, adequate and reasonable service, in violation of Minn. Stat.

§ 216B.04. Specifically, Complainants alleged that Sauk Centre had failed to install equipment which provides reasonable and adequate protection against injury to Complainants' dairy herd from stray electrical voltage, within 90 days of a request for such services.

On October 1, 1993, following a number of procedural motions, comments from the parties, and a Commission Order addressing procedure, the Commission issued its ORDER REQUIRING CERTAIN MODIFICATIONS, FURTHER TESTING, AND FILINGS. The Order required the Respondent, under the direction of Commission Staff, to conduct a conventional cow contact voltage investigation on the Wolbeck dairy farm. The Commission ordered Sauk Centre to implement certain modifications to the Wolbecks' electrical system as part of the investigation. Following implementation of the modifications, the Respondent was to conduct a second measurement of cow contact voltages and to submit a herd health assessment of the Wolbecks' dairy herd.

Pursuant to the October 1 Order, Sauk Centre conducted electrical testing at the Wolbeck farm on September 23, 1993, and October 12, 1993. The required modifications to the Wolbecks' electrical system were implemented during the week of October 4th.

On October 13, 1993, Sauk Centre submitted a proposed herd health assessment protocol. On October 22, 1993, Sauk Centre filed a second, modified proposed protocol which incorporated some of Commission Staff's suggestions. Copies of this document were distributed to the parties.

On November 1, 1993, the Wolbecks filed written comments regarding Respondent's proposed herd health assessment protocol. The Complainants also provided their own proposed protocol.

On November 3, 1993, The Electromagnetic Research Foundation (TERF) filed comments on the proposed herd health assessment protocol.

On November 23, 1993 the Commission issued its ORDER SETTING GUIDELINES FOR HERD HEALTH ASSESSMENT AND ESTABLISHING COMMENT PERIOD in the above-entitled case.

On December 1, 1993, Respondent Sauk Centre duly filed the health assessment of the Complainants' herd.

On January 18, 1994, Sauk Centre and the Department filed comments on electrical testing and herd health issues.

On January 20, 1994 TERF and the Wolbecks filed comments on electrical testing and herd health issues.

On February 2, 1994, Sauk Centre and the Department filed reply comments. TERF and the Wolbecks filed reply comments on February 4, 1994.

On August 8, 1994 the Wolbecks filed additional electrical test data they had taken at their farm.

On November 23, 1994 Sauk Centre filed comments on the Wolbecks' August 8, 1994 filing. On December 22, 1994, the Commission met to consider this matter.

FINDINGS AND CONCLUSIONS

A. Herd Health

A major item in dispute before the Commission at this time is the reliability and import of the herd health assessment report submitted by the Company on December 1, 1993. In this Order, the Commission will review the parties' comments, state its analysis, and outline the course of action it will take at this time.

1. Comments of Sauk Centre

Sauk Centre stated that a herd health assessment should include:

1. on site observation
2. on site testing
3. review of health, management, and production records before during and after stray voltage allegations

Sauk Centre alleged that because of objections by the Commission and the Wolbecks, none of these components were satisfied. Three exhibits are provided as examples of what Sauk Centre believes should be in a proper herd health assessment.

Nevertheless, the Company asserted that there were several conclusions that could be drawn from its assessment of the Wolbeck's herd:

In their general evaluation of the herd test data Sauk Centre alleged that the problem with environmental bacteria was probably caused by the dirty condition of the cows. They go on to note that the Wolbecks enlarged their herd from 49 to 67 cows in 1988. If the Wolbecks purchased any replacements, the Company argued that they risked introducing new diseases to the herd and if they reduced culling rates they degraded herd quality.

In Sauk Centre's analysis of milk production and water records, they concluded that the data do not indicate or suggest a stray voltage problem. Rather, according to Sauk Centre, the data suggest a nutritional problem.

2. The Wolbecks

The Wolbecks objected to the photograph portion of the protocol on the grounds that Sauk Centre wanted the photos to evaluate management practices. In addition, they expressed concern that the Company's veterinarian did not conduct a complete body score of the animals on site. Sauk Centre's veterinarian chose to use the photographs to complete his body scoring analysis off site. The Wolbecks stated that all people they contacted agreed that a proper body scoring analysis includes physically touching the animals. They also disagreed with Sauk Centre's rating on individual animals.

The Wolbecks concluded their remarks by stating "herd health assessment is sensitive and complex." They stated that "the bottom line in herd health assessment" is the fact that their herd has shown improvement since the service changes were made on October 4, 1993. The Wolbecks suggested that a fair evaluation would have included an independent evaluator and not one hired by the Company.

In response to Sauk Centre's contention that herd production was low due to nutritional problems, the Wolbecks submitted a statement from their veterinarian that the herd is normal with respect to the 8 blood parameters tested. They also noted that the Department's expert witness (Dr. Bodman) had cited the "better than normal butterfat content" of the herd's milk as proof of reasonable nutrition and adequate fiber intake.

3. The Department

The Department noted that the herd is producing at a substandard rate and has some moderate to severe infection problems. However, according to the Department, the limited herd data (October 8 - November 16, 1993) is inadequate to perform any meaningful assessment of the herd. The Department suggested a full assessment of the nutritional program to try to determine why the performance and production are substandard before any additional electrical testing.

4. TERF

TERF objected to Sauk Centre's conclusions, asserting that the Company's veterinarian departed from the herd health test protocol when he conducted the body scoring from photographs. In general, TERF felt that the Company inappropriately turned the herd assessment into a negative assessment of the Wolbecks' herd management. To the contrary, TERF concluded that the herd health data showed that "the herd is well cared for and is being fed a good ration".

TERF urged the Commission to focus on Sauk Centre (not the Wolbecks) and take note of what happens to the cows' production and milk quality after corrections are made. TERF provided a paper from Keith Folger of Otter Tail Power Company, listing the improvements that can be expected in a herd after a problem is corrected.

Finally, TERF predicted that eliminating spikes would probably improve water consumption and make more milk.

5. Commission Analysis and Action

The herd health test protocol developed pursuant to the Commission's November 23, 1993 Order was intended to be a snapshot type analysis based on a one time site visit and limited herd data.¹ The testing was not intended to provide the basis for a definitive assessment of environmental causative factors. Despite the limited focus of the testing, the data it produced showed at least the following:

¹ The herd data available for analysis, in addition to with the one-time site visit, was for the period October 8 - November 16, 1993.

1. The herd was at marginal or below average milk volume production levels.
2. The herd had a mastitis problem.
3. The herd was experiencing high cull rates.

The snapshot herd health assessment was taken shortly after the certain changes in the electrical environment at the Wolbeck's farm,² too early for the results from such changes (if any) to appear.

The Commission agrees with TERF that it is a basic step in the investigative process to document what changes (if any) in cow conditions have followed upon the alterations in the electrical environment ordered by the Commission. Another snapshot is in order at this time. Accordingly, the Commission will direct an immediate additional herd health assessment to be filed within 60 days of this Order. The purpose of this assessment is to see if the Wolbeck herd continues to manifest symptoms suggesting a need for and potential helpfulness of further steps in this matter. To safeguard against any appearance of unfairness, the Commission will engage an independent investigator to conduct the assessment. Commission staff will have the authority to select and supervise the independent investigator. The protocol for this assessment will essentially follow the outline of the one used for the initial assessment. However, Commission staff will have the discretion to modify that protocol, for example, in response to difficulties and issues encountered in connection with the first assessment protocol.³

Finally, the Commission will repeat such assessments on a quarterly basis thereafter for the duration of this docket to provide on-going data to assess progress.

B. AMOCO Pipeline Pumping Station

There are large electric loads located near the Wolbeck farm. Potentially the most significant loads are at an AMOCO pipeline pumping station, located right across the road from the Wolbeck farmstead. This station operates 300 Hp and 800 Hp three phase electric motors operating at 2400 volts. The station is served with a 1500 KVA padmounted transformer. In addition, the station uses a single phase cathodic protection system located on-site to reduce pipeline corrosion on the pipeline system. This system injects a controlled amount of DC current into the ground to offset naturally occurring DC corrosion cells on the pipeline.

After reviewing this record and hearing the arguments of the parties, the Commission finds that it would be logical and prudent to learn more about the nature of the AMOCO pipeline pumping station and to learn as much as possible about its possible relationship to the problems complained of by the Wolbecks.

Accordingly, the Commission will direct the Company to conduct an investigation of the AMOCO substation under the supervision of and following a protocol to be developed by Commission Staff. The Commission anticipates that the AMOCO investigation protocol developed by Staff will be flexible enough to pursue the collection of data at all relevant points,

² At the Commission's direction, Sauk Centre removed the bare concentric neutral cables from North and South Farm services, relocated both pad-mount transformers, and increased the separation between the primary and secondary grounding systems. See the Commission's October 1, 1993 ORDER REQUIRING CERTAIN MODIFICATIONS, FURTHER TESTING, AND FILINGS in this matter at page 8.

³ Because the question has been raised, the Commission notes that the cost of the independent herd health assessment, as any other cost of this investigation, is billable to the Company pursuant to Minn. Stat. § 237.295 (1992).

up and down the road from AMOCO and/or across the road on the Wolbeck farm, as Staff finds appropriate.⁴ The Company should complete such an investigation and file a report thereon within 60 days of this Order.

C. Electrical Testing

The Commission agrees with the Department that it is premature to proceed with additional electrical testing on the Wolbeck farmstead at this time. Before determining whether/how to proceed with electrical testing beyond what it has authorized with respect to the AMOCO pumping station, the Commission will await the results of the second herd health assessment and the results of the AMOCO investigation. See discussion above.

ORDER

1. The independent investigator selected by Commission Staff shall proceed with a snapshot-type study of the health of Complainants' herd under the supervision of Commission Staff and pursuant to the protocol used by the parties for the first herd health study but modified as Commission Staff deems appropriate.

The independent investigator shall file said study with the Commission within 60 days of the date of this Order.

Additional studies of a similar nature shall be completed and filed on a quarterly basis thereafter during the pendency of this docket.

2. Sauk Centre shall conduct and defray the expense of an investigation of the AMOCO substation under the supervision of and following a protocol to be developed by Commission Staff. Sauk Centre shall complete said investigation and file a report thereon with the Commission within 60 days of the date of this Order.
3. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

(S E A L)

⁴ Similarly to the clarification in footnote 3, the expense of the AMOCO investigation is appropriately defrayed by Sauk Centre pursuant to Minn. Stat. § 237.295 (1992).